PATENT

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January 17, 2001

Krista J. Hale 01-17-01

SIGNATURE DATE

#19 Appeal Brief 1-30-01 RW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Hiroshi Nemoto
Serial No.	:	09/196,029 Reissue Application of U.S. Patent No. 5,577,767, Issue Date: November 26, 1996
Filing Date	:	November 19, 1998
For	:	HOUSING ASSEMBLY FOR AN AIR BAG AND VEHICLE HORN SWITCH
Group Art Unit	:	3618
Examiner	:	P. Dickson
Attorney Docket No.	:	TRW(VSSIM)2499RE

Assistant Commissioner for Patents
Washington, D.C. 20231

APPEAL BRIEF

Sir:

Following the Notice of Appeal filed December 8, 2000, Appellant presents this Appeal Brief.

I. REAL PARTY IN INTEREST

The real party in interest is TRW Inc. as indicated by the Assignment recorded March 6, 1995, Reel/Frame: 7386/0170.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-10 (from the issued patent) and claims 11-23 were originally filed in the above-identified Reissue Application on November 19, 1998.

Claims 1-23 were allowed in an *Ex Parte Quayle* Office Action dated June 15, 1999.

In response to the Office Action of June 15, 1999, the original patent, U.S. Patent No. 5,577,767 was submitted in order to complete the formal requirements for allowance and reissue.

In an Office Action dated November 5, 1999, the allowability of claims 11-15 and 19-23 was withdrawn. Claims 1-10 and 16-18 remained allowed.

In response to the Office Action of November 5, 1999, claims 11-15 and 19-23 were canceled without prejudice by the Amendment filed April 3, 2000 thereby leaving claims 1-10 and 16-18 in condition for allowance and reissue.

In an Office Action dated June 6, 2000, the allowability of claims 16-18 was withdrawn and claims 16-18 were rejected based on the doctrine of recapture.

In response to the Office Action of June 6, 2000, it was argued that the doctrine of recapture does not apply because the subject matter of claims 16-18 was not surrendered in the original prosecution of U.S. Patent No. 5,577,767.

In an Office Action dated September 6, 2000, claims 16-18 were finally rejected based on the doctrine of recapture. The arguments of the prior Request for Reconsideration were deemed unpersuasive.

In response to the Office Action of September 6, 2000, it was reasserted that the subject matter of claims 16-18 was not surrendered in the original prosecution of U.S. Patent No. 5,577,767 by the Request for Reconsideration filed November 8, 2000.

In an Advisory Action dated November 17, 2000, the arguments of the Request for Reconsideration of November 8, 2000 were deemed unpersuasive. Only original claims 1-10 stand as allowable. Claims 16-18 stand rejected. Consequently, a Reissue of the original patent was deemed improper by the Examiner.

In response to the Advisory Action dated November 17, 2000, a Notice of Appeal was filed on December 5, 2000.

An Amendment After Final Rejection was filed on December 7, 2000 placing claims 17 and 18 in independent form for purposes of this appeal.

IV. SUMMARY OF THE INVENTION

The present invention relates to an air bag module 20 (Figs. 1 and 2) mounted on a steering wheel 22 of a vehicle. The air bag module 20 includes a housing assembly 24. The housing assembly 24 includes a metal base 28 (Fig. 2) that is connected with the steering wheel by suitable connectors.

The housing assembly 24 also includes a relatively stiff inner cover 34 connected to the base 28. The inner cover 34 encloses an air bag 38, partially shown in Fig. 2. A resiliently deflectable outer cover 36 encloses the inner cover 34 and the air bag 38. The outer cover 36 has an outer wall 44 covering an outer wall 40 of the inner cover 34 and

side walls 46 extending from the outer wall 44. The side walls 46 are connected to the base 28.

The outer cover 36 has weakened areas providing a tear seam 48 preferably having an H-shape (Fig. 1). A central portion 49 of the tear seam 48 extends across the outer wall 44 of the outer cover 36 between legs 51 of the H-shaped tear seam 48. The inner cover 34 also has weakened areas providing a tear seam that is also H-shaped. The tear seam in the inner cover 34 (Fig. 2) lies directly under the tear seam 48 and has a central portion 50 that lies directly under the portion 49 of the tear seam 48. The tear seam central portion 50 has substantially the same length as the tear seam central portion 49.

The air bag 38 may be connected with the base 28 in any suitable manner. In Fig. 2, the air bag 38 is connected with base 28 by an annular metal clamp ring 52 and suitable fasteners. The clamp ring 52 clamps an open end or mouth of the air bag 38 to the base 28. The air bag 38 is clamped around a generally cylindrical air bag inflator 54. The inflator 54 is also secured to the base 28. The inflator 54 provides a source of fluid for inflating the air bag 38.

Upon the occurrence of sudden vehicle deceleration requiring air bag inflation, a suitable control apparatus activates the inflator 54. The inflator 54, when activated, emits a flow of fluid that inflates the air bag 38. As the air bag 38 inflates, the air bag applies pressure to the inside of the inner cover 34. In response to the pressure, the inner cover 34 ruptures along the tear seam 50, and the outer cover 36 ruptures along the tear seam 48. The pressure

applied by the air bag 38 pivots portions of the inner cover and the outer cover 36 out of the path of inflation of the air bag 38. The air bag 38, when inflated, restrains the vehicle driver from forcefully striking structural parts of the vehicle, such as the steering wheel 22.

A horn switch 58 (Figs. 2 & 3) is disposed between the inner and outer covers 34, 36. The horn switch 58 is connected with ground and a source of electrical energy, such as a vehicle battery.

The horn switch 58 has an area that is approximately the same as the area of the outer walls 40, 44 of the inner and outer covers 34, 36. When the vehicle horn is to be operated, pressure is manually applied against the outer cover 36 to actuate the horn switch 58 and effect operation of the vehicle horn.

The switch 58 has first and second spaced tear seams 64, 65 (Fig. 3). The switch 58 ruptures along the tear seams 64, 65 upon inflation of the air bag 38. The tear seams 64, 65 overlie the central portion 50 of the tear seam in the inner cover 34. Because the central portion 50 is aligned with the central portion 49 of the tear seam 48 in the outer cover 36, the central portion 49 overlies the tear seams 64, 65.

The combined lengths of the first and second tear seams 64, 65 are substantially less than the lengths of each of the tear seam central portions 49, 50. The combined lengths of the first and second tear seams 64, 65 are about one-sixth (1/6) the length of each of the tear seam central portions 49, 50. Since only a small portion of the horn switch 58 ruptures as compared to the inner and outer

covers 34, 36, the horn switch has a minimum retarding effect on inflation of the air bag 38.

The switch 58 includes a pair of generally flat, flexible, overlying layers 70, 72 (Figs. 4-7) of electrically conductive material. Dots or bumps 76 (Figs. 4 & 5) of polymeric material, which is an electrical insulator, are disposed between the layers 70, 72. The bumps 76 are secured to the layer 70 and engage the layer 72 to separate the two layers until pressure is applied to deflect the layers 70, 72 into engagement with one another. Engagement of the layers 70, 72 completes an electrical connection to effect operation of the vehicle horn. The layers 70, 72 engage when sufficient pressure is manually applied against the outer cover 36.

The layer 70 (Figs. 4 & 6) includes layer portions 80, 82 spaced apart from each other on opposite sides of the tear seam 64 of the horn switch 58. An interconnecting portion 84 of the layer 70 interconnects the portions 80, 82 and extends across the central portions 49, 50 of the tear seams in the inner and outer covers 34, 36. The interconnecting portion 84 includes a tear line 86 (Fig. 6) along which the interconnecting portion ruptures upon air bag inflation. The tear line 86 is aligned with the tear seam central portions 49, 50 in the inner and outer covers 34, 36.

The portions 80, 82 of the layer 70 include spaced apart, parallel edge portions 90, 92, respectively (Fig. 6). Each of the edge portions 90, 92 extends adjacent and parallel to the central portions 49, 50 of the tear seams in the inner and outer covers 34, 36. The interconnecting portion 84 has a

dimension measured along the tear line 86 which is substantially less than the length of each of the tear seam portions 49, 50 and also substantially less than the length of each of the edge portions 90, 92, as can be clearly seen in Fig. 6. The layer 72 (Figs. 5 & 7) includes layer portions 96, 98 spaced apart from each other on opposite sides of the tear seam 65 in the horn switch 58. An interconnecting portion 100 of the layer 72 connects the portions 96, 98 and extends across the tear seam central portions 49, 50 in the inner and outer covers 34, 36. The interconnecting portion 100 includes a tear line 102 (Fig. 7) along which the interconnecting portion 100 ruptures upon air bag inflation. The tear line 102 is aligned with the tear seam central portions 49, 50.

The portions 96, 98 of the layer 72 have spaced apart, parallel edge portions 108, 110 that extend adjacent and parallel to the tear seam central portions 49, 50 in the inner and outer covers 34, 36. The interconnecting portion 100 (Fig. 3) is spaced apart from the interconnection portion 84 of the layer 70 along a line 114 (Fig. 3) containing the tear lines 86, 102.

The two layers 70, 72 of electrically conductive material are enclosed by an envelope 120 (Figs. 3-5) of electrically insulating material. The layers 70, 72 and the envelope 120 are interconnected for installation in, and removal from, the housing assembly 24 as a unit. The envelope 120 includes a portion 122 enclosing the portions 80, 96 of the layers 70, 72. A portion 124 of the envelope 120 encloses portions 82, 98 of the layers 70, 72. The portions 122, 124 are spaced

apart from each other and located on opposite sides of the tear seams 64, 65 in the horn switch 58.

The tear lines 86, 102 in the interconnecting portions 84, 100 and the tear lines in the portions 126, 128 of the envelope 120 define the first and second tear seams 64, 65 of the horn switch 58.

VI. ISSUE

I. Whether arguments presented in the prosecution of the original patent, US 5,577,767, surrendered the subject matter recited in claim 16 of the present reissue application.

II. Whether arguments presented in the prosecution of the original patent, US 5,577,767, surrendered the subject matter recited in claim 17 of the present reissue application.

III. Whether arguments presented in the prosecution of the original patent, U.S. Patent No. 5,577,767, surrendered the subject matter recited in claim 18 of the present reissue application.

VII. GROUPING OF CLAIMS

Independent claim 16 stands or falls alone. Independent claim 17 stands or falls alone. Independent claim 18 stands or falls alone.

VIII. ARGUMENT

A. Claim 16

Claim 16 has been rejected under 35 U.S.C. §251 as recapturing subject matter previously surrendered in the

prosecution of the original application, Serial No. 08/400,260, Patent No. 5,577,767. Paragraph 4 of the Office Action of September 6, 2000 states that the record constitutes an admission by the applicant that the limitation, "an inner cover, the inner cover having a first tear seam", was necessary to overcome the prior art. The Office Action references: page 2, 2nd full paragraph of the May 28, 1996 Amendment; and page 5, lines 21-26 and page 6, lines 4-11 and 14-27 of the December 11, 1995 Amendment (copies of these Amendments are attached to this Appeal Brief as Appendices B and C). Claim 16 does not recite the inner cover.

Paragraph 3 of the Office Action of September 6, 2000 references the *Hester* case. The *Hester* case stands for the proposition that surrender of subject matter may occur through arguments alone in the prosecution of an original application. *Hester Indus. Inc. v. Stein Inc.*, 46 USPQ.2d 1641, 1649 (Fed. Cir. 1998); MPEP §1412.02.

Specifically, in the prosecution in *Hester*, it was repeatedly argued that the limitations omitted in the reissue claims were what distinguished the invention from the prior art. *Id.* at 1649. At no less than 42 places in papers submitted to the Patent Office in the original prosecution, it was asserted that the omitted limitations distinguished the invention from the prior art. *Id.* Further, the patentee repeatedly argued that the limitations omitted from the reissue claims were "critical" with regard to patentability. *Id.*

This is not the situation in the prosecution of the original claims in this case. No "deliberate assertions" of

the "critical" nature of any single limitation, including the inner cover, were made in the original prosecution.

Moreover, both of the above passages referenced by the Examiner in this case recite the following format: "Claim 6 recites an apparatus comprising..." a list of the elements of claim 6; and, then, "None of the prior art discloses or suggests an apparatus as set forth in claim 6." It is respectfully submitted that this type of argument is not a deliberate assertion of the critical nature of any single limitation, as was the situation in the *Hester* case.

The facts of this case distinguish it from the *Hester* case. The argument, in the original prosecution in this case, is a general statement regarding the patentability of claim 6 as a whole and specific to no one limitation (i.e., a "boiler plate" format) as stated in MPEP §1412.02. No surrender of subject matter is made by this type of argument.

One example of such a "boiler plate" argument is:

> In closing, it is argued that the limitations of claims 1-7 distinguish the claims from the teachings of the prior art, and claims 1-7 are thus patentable.

MPEP §1412.02. An argument, which also has a recitation of all the limitations in the claim at issue, does not make an argument specific to any single limitation, or make any single limitation critical to all patentable features of the disclosed invention. Therefore, this type of argument does not imply in any way that each limitation is necessary in all claims that may be directed different features or combinations of the invention.

Furthermore, claim 16 recites, among other things, a horn switch having first and second layers, the layers have first and second portions, the first and second portions are spaced apart from each other. The first portion has a first tear line aligned with a tear seam in a cover wall. The second portion has a second tear line aligned with the tear seam in the cover wall. Claim 16 does not recite inner and outer covers.

All of the originally submitted claims 1-8 of the original application, filed March 8, 1995, and all of the claims that issued into the patent for which reissue is sought, recited the inner and outer cover. Claims 9 and 10 of the original application, added by amendment, also recited the inner and outer cover. Thus, the application which issued as U.S. Patent No. 5,577,767, at no time presented a claim like claim 16 of the subject reissue application. Also, at no time was there an argument that inner and outer covers are critical to patentability. Therefore, recapture does not apply to claim 16.

Applicants recognize that the law does not permit attempts to recapture subject matter affirmatively surrendered during the initial patent prosecution. *B.E. Meyers & Co. v. United States*, 56 USPQ.2d 1110 (Fed. Cl. 2000); *Mentor Corp. v. Coloplast Inc.*, 27 USPQ.2d 1521 (Fed. Cir. 1993). These cases all recognize that a patentee has the right to file a broadening reissue application. The Examiner in the present case is effectively eliminating the possibility of any broadening in this reissue application (since any limitation removed from claims may be attacked by the Examiner as recapture). This is in direct conflict with 35 USC §251

(4th paragraph), which permits the patentee to enlarge the scope of a patent within two years from the grant of the original patent.

Claim 16, while broader than the claims of the parent application as permitted by 35 USC §251, does not recapture subject matter surrendered in the prosecution of the original application. Claim 16 is allowable.

B. Claim 17

Claim 17 recites the features of claim 16 as well as the following features: "first and second tear lines having a combined length less than the length of the tear seam in the cover wall". Claim 17 is in condition for allowance for the reasons set forth in Section "A. Claim 16" above.

Additionally, the above-recited feature was not specifically addressed by the Examiner throughout the prosecution of this Reissue application. Pages 3-4, lines 27-30 and 1-2 of the May 28, 1996 Amendment and pages 7-8, lines 12-30 & 1-3 of the December 11, 1995 Amendment state that the above-recited feature, specifically, patentably defines over the prior art. Since the Examiner allowed the claims with this feature following these arguments, it is respectfully submitted that claim 17 does not recapture subject matter surrendered in the prosecution of the original application. Thus, claim 17 is in condition for allowance.

C. Claim 18

Claim 18 recites the features of claim 16 as well as the following features: "horn switch including an envelope of electrically insulating material extending around the first

and second layers of electrically conductive material, the envelope including a first portion extending around the first portion of the first layer and including a second portion which is spaced from the first portion and which extends around the second portion of the second layer". Claim 18 therefore is in condition for allowance for the reasons set forth in Section "A. Claim 16" above.

Additionally, pages 8-9, lines 4-30 & 1-3 of the December 11, 1995 Amendment state that the above-recited feature, specifically, patentably defines over the prior art. Since the Examiner allowed the claims with this feature following this argument, it is respectfully submitted that claim 18 does not recapture subject matter surrendered in the prosecution of the original application. Thus, claim 18 also is in condition for allowance.

IX. CONCLUSION

In view of the foregoing, Appellant respectfully submits that independent claims 16, 17, and 18 are allowable. Reversal of the rejection and Reissue of the application is respectfully requested.

X. OTHER MATTERS

A Supplemental Reissue Declaration under MPEP §1414.01 may be submitted when all other issues in the case have been resolved. Since a Supplemental Reissue Declaration will only be necessary upon a ruling favorable to the Applicant on at least one issue in this Appeal, a Supplemental Reissue Declaration will be filed upon a ruling favorable to the Applicant on one of the issues in this Appeal.

XI. APPENDICES

Appendix A contains a copy of the claims on appeal.

Appendix B contains a copy of the December 11, 1995 Amendment filed in the prosecution of the original patent, U.S. Patent No. 5,577,767.

Appendix C contains a copy of the May 28, 1996 Amendment filed in the prosecution of the original patent, U.S. Patent No. 5,577,767.

Please charge any deficiency or credit any overpayment in the fees for this Appeal Brief to Deposit Account No. 20-0090.

Respectfully submitted,

Robert N. Lipcsik
Reg. No. 44,460

Tarolli, Sundheim, Covell,
Tummino & Szabo L.L.P.
1111 Leader Building
526 Superior Avenue
Cleveland, Ohio 44114
Phone: (216) 621-2234
Fax: (216) 621-4072

APPENDIX A

16. An apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn, said apparatus comprising:

a cover wall having a tear seam along which said cover wall ruptures in response to inflation of the air bag to enable deployment of the air bag; and

a horn switch including first and second overlying layers of electrically conductive material, said first layer including a first portion with a first tear line aligned with said tear seam in said cover wall, said second layer including a second portion which is spaced apart from said first portion and which has a second tear line aligned with said tear seam in said cover wall, said second tear line being spaced apart from said first tear line along a line extending along said first and second tear lines, said horn switch being rupturable along said first and second tear lines upon inflation of the air bag.

17. An apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn, said apparatus comprising:

a cover wall having a tear seam along which said cover wall ruptures in response to inflation of the air bag to enable deployment of the air bag; and

a horn switch including first and second overlying layers of electrically conductive material; said first layer including a first portion with a first tear line aligned with said tear seam in said cover wall, said second layer including a second portion which is spaced apart from said first portion and which has a second tear line aligned with said tear seam in said cover wall, said second tear line being spaced apart from said first tear line along a line extending along said first and second tear lines, said horn switch being rupturable along said first and second tear lines upon inflation of the air bag,

said first and second tear lines having a combined length less than the length of said tear seam in said cover wall.

18. An apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn, said apparatus comprising:

a cover wall having a tear seam along which said cover wall ruptures in response to inflation of the air bag to enable deployment of the air bag; and

a horn switch including first and second overlying layers of electrically conductive material, said first layer including a first portion with a first tear line aligned with said tear seam in said cover wall, said second layer including a second portion which is spaced apart from said first portion and which has a second tear line aligned with said tear seam in said cover wall, said second tear line being spaced apart from said first tear line along a line extending along said first and second tear lines, said horn switch being rupturable along said first and second tear lines upon inflation of the air bag,

said horn switch including an envelope of electrically insulating material extending around said first and second layers of electrically conductive material, said envelope including a first portion extending around said first portion of said first layer and including a second portion which is spaced from said first portion and which extends around said second portion of said second layer.

A P P E N D I X B

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE COMMISSIONER OF PATENTS AND TRADEMARKS, WASHINGTON, D.C. 20231, ON 12-6-95

Helen Ragose 12-6-95
SIGNATURE DATE

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Nemoto et al.
Serial No.	:	08/400,260
Filing Date	:	March 8, 1995
For	:	HOUSING ASSEMBLY FOR AN AIR BAG AND HORN SWITCH
Group Art Unit	:	3106
Examiner	:	P. Dickson
Attorney Docket No.	:	TRW(VSSIM)2499

Cleveland, Ohio 44114-1400
December 6, 1995

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Copy of Amend filed in Parent application

AMENDMENT

Sir:

In response to the Office Action dated September 6, 1995, please amend the above-identified application as follows:

IN THE CLAIMS:

Add claims 9 and 10 as follows:

9. An apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn, said apparatus comprising:

an inner cover having a first wall at least partially enclosing the air bag, said first wall being movable upon deployment of the air bag;

an outer cover having a second wall at least partially enclosing said inner cover and the air bag and including means for defining a tear seam which extends across said second wall and along which said outer cover ruptures upon inflation of the air bag to enable deployment of the air bag; and

a horn switch disposed between said inner and outer covers for effecting operation of the horn, said horn switch including first and second overlying layers of electrically conductive material and an envelope of electrically insulating material enclosing said first and second layers, said horn switch including a tear seam along which said horn switch ruptures upon inflation of the air bag to enable deployment of the air bag.

10. An apparatus as set forth in claim 9 wherein said tear seam in said horn switch is aligned with said tear seam in said outer cover.

REMARKS

Reconsideration of the above-identified application in view of the present amendment is respectfully requested.

Applicant acknowledges, with appreciation, the indication of allowability of claims 2-5 and 8. Applicant respectfully submits that claims 1, 6 and 7-10 are allowable for the following reasons.

Claim 1 recites an apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn. The apparatus comprises an inner cover having a first wall at least partially enclosing the air bag. The inner cover includes means for defining a first tear seam which extends across the first wall and along which the inner cover ruptures upon inflation of the air bag to enable deployment of the air bag. The apparatus further comprises an outer cover having a second wall at least partially enclosing the inner cover and the air bag. The outer cover includes means for defining a second tear seam which

extends across the second wall and along which the outer cover ruptures upon inflation of the air bag to enable deployment of the air bag. Moreover, the apparatus still further comprises a horn switch disposed between the inner and outer covers for effecting operation of the horn. The horn switch includes first and second overlying layers of electrically conductive material and first and second tear seams in the horn switch along which the horn switch ruptures upon inflation of the air bag to enable deployment of the air bag. The first and second tear seams in the horn switch are aligned with the first and second tear seams in the inner and outer covers and have a combined length less than the length of each of the first and second tear seams in the inner and outer covers.

None of the prior art including the prior art references of record discloses or suggests an apparatus comprising an inner cover having means for defining a first tear seam, an outer cover having means for defining a second tear seam and a horn switch disposed between the inner and outer covers including first and second overlying layers of electrically conductive material and first and second tear seams in the horn switch wherein the first and second tear seams in the horn switch are aligned with the first and second tear seams in the inner and outer covers and have a combined length less than the length of each of the first and second tear seams in the inner and outer covers.

Shelton et al. discloses an inner cover 18, an outer cover 12 having a tear seam 14, and a horn switch 20, 22, 24 disposed between the covers 12, 18. Positive contacts 20 and negative contacts 22 are made of material so they will not hinder deployment of the air bag 28, such as foil. The Shelton et al.

citation does not discloses or suggests any tear seams in the horn switch. Shelton et al. discloses, in column 3, lines 9-11, perforations in the foil to weaken the foil when the air bag deploys. It appears from the language of column 3, lines 4-11, that the perforations are directed to the foil comprising positive contacts 20 and negative contacts 22. The perforations "weaken the foil", they do not function as tear seams.

Moreover, the perforations most likely would not be centered on fingers 20 and 22 (see Figs. 1 and 3). It seem illogical that the central portions of the fingers 20 and 22 would require any perforations for weakening the foil during air bag deployment. As can be seen in Figs. 1 and 3 in Shelton et al. the fingers 20 and 22 do not contact each other (i.e., have spaces between them) and therefore do not have any resistance to separating from each other. Logically, it appears that any perforations in Shelton et al. would be located at the pivot points of the fingers 20 and 22 (i.e., the axially extending lines spaced parallel from tear seam 14 in the outer cover 12). The perforations, being located at the pivot points, would provide an area of weakened foil to allow the fingers 20 and 22 to allow the fingers 20 and 22 to bend about as they move out of the way of the deploying air bag. That being the case, Shelton et al. would not have first and second tear seams in the horn switch aligned with the tear seams in the covers. Moreover, Shelton et al. would not have tear seams in the switch having a combined length less than the length of tear seam 14.

Moreover, assuming arguendo, that the perforations on the horn switch 20, 22, 24 in Shelton et al. were to be considered

tear seams and they were to be aligned with tear seam 14, they would have to be centered on the layer 24 of conductive material located on inner cover 18 and the layers of conductive material 20 and 22 located on the outer cover 12. As can be seen in Figs. 1 and 3, if the perforations were centered on layers 20, 22, and 24 of conductive material on covers 12 and 18, since the length of the horn switch 20, 22, and 24 is more than one-half the length of tear seam 14, the combined length of the perforations would exceed the length of tear seam 14.

Additionally, Shelton et al. does not disclose or suggest a tear seam in the inner cover. Furthermore, there is no suggestion in the Shelton et al. citation or in the Cok et al. citation to combine the teachings of these two citations. Moreover, as discussed above, even assuming arguendo that the teachings could be combined, the resulting combination would still lack essential features of the present application.

Thus, claim 1 patentably defines over the prior art including the prior art references of record, whether taken singularly or in combination, and is therefore allowable.

Claim 6 recites an apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn. The apparatus comprises an inner cover at least partially enclosing the air bag. The inner cover includes means for defining a first tear seam in the inner cover along which the inner cover ruptures upon inflation of the air bag to enable deployment of the air bag. The apparatus further comprises an outer cover at least partially enclosing the inner cover and the air bag. The outer cover includes means for defining a second tear seam in the outer cover along which the outer cover ruptures in response to inflation of the air bag to enable deployment of the air bag.

The apparatus still further comprises a horn switch disposed between the inner and outer covers for effecting operation of the horn. The horn switch includes first and second layers of electrically conductive material. The first layer includes a first portion with a first tear line aligned with the first and second tear seams in the inner and outer covers. The second layer includes a second portion spaced apart from the first portion with a second tear line aligned with the first and second tear seams in the inner and outer covers and spaced apart from the first tear line along a line extending along the first and second tear lines. The horn switch is rupturable along the first and second tear lines upon inflation of the air bag.

None of the prior art including the prior art references of record discloses or suggests an apparatus comprising an inner cover including means for defining a first tear seam in the inner cover, an outer cover including means for defining a second tear seam in the outer cover and a horn switch disposed between the inner and outer covers including first and second layers of electrically conductive material wherein the first layer includes a first portion with a first tear line aligned with the first and second tear seams in the inner and outer covers and the second layer includes a second portion spaced apart from the first portion with a second tear line aligned with the first and second tear seams in the inner and outer covers and spaced apart from the first tear line along a line extending along the first and second tear lines.

As discussed above in the remarks set forth in support of claim 1, assuming arguendo that the perforations could be considered to be tear seams, it is unlikely that the

perforations disclosed in column 3, lines 9-11 would be located in the center of the fingers 20 and 22. Instead, it is most likely that the perforations would be located along the pivot points of finger portions 20 and 22. Accordingly, the first and second perforations would not be aligned with the tear seam 14. Moreover, the first and perforations would not be spaced apart from each other in a line extending along the first and second tear seam.

Thus, claim 6 patentably defines over the prior art including the prior art references of record, whether taken singularly or in combination, and is therefore allowable.

Claim 7 depends from claim 6 and is allowable for the reasons claim 6 is allowable and for the specific limitations recited therein. Claim 7 further recites that the first and second tear lines have a combined length less than a length of the first tear seam in the inner cover. None of the prior art including the prior art references of record discloses or suggests the structure recited in claim 7 in combination with the structure recited in claim 6. Moreover, assuming arguendo, that the perforations on the horn switch 20, 22, 24 in Shelton et al. were considered to be tear seams and were to be aligned with tear seam 14, they would have to be centered on the layer 24 of conductive material located on inner cover 18 and the layers of conductive material 20 and 22 located on the outer cover 12. As can be seen in Figs. 1 and 3, if the perforations were centered on layers 20, 22, and 24 of conductive material on covers 12 and 18, since the length of the horn switch 20, 22, and 24 is more than one-half the length of tear seam 14, the combined length of the perforated tear seams would exceed the length of tear seam 14. Thus, claim 7 patentably defines

over the prior art including the prior art references of record, whether taken singularly or in combination, and is therefore allowable.

Claim 9 recites an apparatus for enclosing an air bag on a steering wheel of a vehicle having a horn. The apparatus comprises an inner cover having a first wall at least partially enclosing the air bag. The first wall is movable upon deployment of the air bag. An outer cover is provided having a second wall at least partially enclosing the inner cover and the air bag and including means for defining a tear seam which extends across the second wall and along which the outer cover ruptures upon inflation of the air bag to enable deployment of the air bag A horn switch is disposed between the inner and outer covers for effecting operation of the horn. The horn switch includes first and second overlying layers of electrically conductive material and an envelope of electrically insulating material enclosing the first and second layers. The horn switch includes a tear seam along which the horn switch ruptures upon inflation of the air bag to enable deployment of the air bag.

None of the prior art including the prior art references of record discloses or suggests an apparatus comprising an inner cover, an outer cover including means for defining a tear seam which extends across the second wall and along which the outer cover ruptures upon inflation of the air bag to enable deployment of the air bag, and a horn switch disposed between the inner and outer covers for effecting operation of the horn, wherein the horn switch includes first and second overlying layers of electrically conductive material and an envelope of electrically insulating material enclosing the first and second

layers and the horn switch includes a tear seam along which the horn switch ruptures upon inflation of the air bag to enable deployment of the air bag.

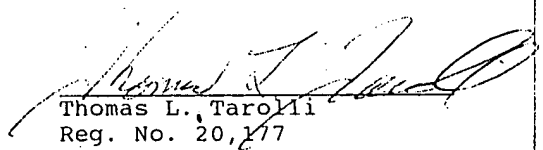
Thus, claim 9 patentably defines over the prior art including the prior art references of record, whether taken singularly or in combination, and is therefore allowable.

Claim 10 depends from claim 9 and is allowable for the reasons claim 9 is allowable and for the specific limitations recited therein. Claim 10 further recites that the tear seam in the horn switch is aligned with the tear seam in the outer cover. None of the prior art including the prior art references of record discloses or suggests the structure recited in claim 10 in combination with the structure recited in claim 9. Thus, claim 10 patentably defines over the prior art including the prior art references of record, whether taken singularly or in combination, and is therefore allowable.

In view of the foregoing, it is respectfully submitted that the above-identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,



Thomas L. Tarolli
Reg. No. 20,177

TAROLLI, SUNDHEIM & COVELL
1111 Leader Building
526 Superior Avenue
Cleveland, Ohio 44114-1400

(216) 621-2234

A P P E N D I X C

PATENT

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231,

on May 24, 1996

Anita Johnson 05/24/96

Signature Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Hiroshi Nemoto
Serial No.	:	08/400,260
Filing Date	:	March 8, 1995
For	:	HOUSING ASSEMBLY FOR AN AIR BAG AND HORN SWITCH
Group Art Unit	:	3106
Examiner	:	P. Dickson
Attorney Docket No.	:	TRW(VSSIM)2499

Cleveland, Ohio 44114
May 24, 1996

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

AMENDMENT

Sir:

In response to the Office Action dated February 26, 1996, please amend the above-identified application as follows:

IN THE CLAIMS:

Claim 6, line 16, before "layers" insert --overlying--.

REMARKS

Entry of the present amendment is respectfully requested. It is earnestly believed that the amendment places the application in condition for allowance and, thus, entry of the present amendment is appropriate.

By the present amendment, claim 6 has been amended to more clearly define the present amendment. Allowance of claims 1-5, 9, and 10 is noted.

It is respectfully submitted that claims 6-8 are allowable. Specifically, claim 6 recites an apparatus comprising an inner cover, an outer cover, and a horn switch disposed between the inner and outer covers. The horn switch includes first and second overlying layers of electrically conductive material. The first layer includes a first portion with a first tear line aligned with first and second tear seams in the inner and outer covers. The second layer includes a second portion spaced apart from the first portion with a second tear line. The second tear line is aligned with the first and second tear seams. The second tear line is spaced apart from the first tear line along a line extending along the first and second tear lines. The horn switch is rupturable along the first and second tear lines upon inflation of an air bag. None of the prior art discloses or suggests an apparatus as set forth in claim 6.

U.S. Patent No. 5,265,904 to Shelton et al. discloses a horn switch disposed between an inner cover 18 and an outer cover 12. The horn switch includes a first layer 20, 22 of electrically conductive material overlying a second layer 24 of electrically conductive material. The Shelton et al. patent suggests forming tear lines in the first layer 20, 22 and the second layer 24, see column 3, lines 9-11. If tear lines were formed in the first layer 20, 22 and the second layer 24, the tear line in the first layer 20, 22 and the tear line in the second layer 24 would not be spaced apart along a line extending along the tear lines in the first layer 20, 22 and

the second layer 24. Since the first layer 20, 22 and the second layer 24 lie in different planes, there is no line extending along a tear line in the first layer 20, 22 and a tear line in the second layer 24. Accordingly, the Shelton et al. patent does not disclose or suggest a first tear line in a first portion of a first layer of electrically conductive material spaced from a second tear line in a second layer of electrically conductive material overlying the first layer along a line extending along the first and second tear lines.

U. S. Patent No. 4,903,986 discloses an apparatus comprising an inner cover 54 with a first tear seam and an outer cover 60 with a second tear seam. The Cok et al. patent does not disclose or suggest a first tear line in a first portion of a first layer of electrically conductive material spaced from a second tear line in a second layer of electrically conductive material overlying the first layer along a line extending along the first and second tear lines.

Assuming, arguendo, that the teachings of the Shelton et al. patent and the Cok et al. patent were combined, the resulting apparatus would not include an essential feature of the present invention. The resulting combination would not include a first tear line in a first portion of a first layer of electrically conductive material spaced from a second tear line in a second layer of electrically conductive material overlying the first layer along a line extending along the first and second tear lines. Thus, claim 6 is allowable.

Claim 7 recites that the first and second tear lines have a combined length less than a length of the first tear seam in the inner cover. None of the prior art discloses first and second tear lines having a combined length less than a length

of a first tear seam in an inner cover and including all the limitations of claim 6. Therefore, claim 7 is also allowable.

Claim 8 recites that the horn switch includes an envelope of electrically insulating material extending around the first and second layers. The envelope includes a first portion extending around the first portion of the first layer and a second portion spaced from the first portion extending around the second portion of the second layer. None of the prior art discloses or suggests an apparatus as set forth in claim 8. Thus, claim 8 is allowable.

The present amendment was not earlier presented because the applicant felt that the first and second layers would be considered overlying and, therefore, the layers 20 and 22 of the Shelton et al. patent would not be considered layers since they do not overlie each other. The present amendment does not raise any new issues and does not require any further searching on the part of the Examiner. The present amendment is necessary to more clearly define the present invention and overcome the rejections of claims 6-8. The present amendment is also necessary to amend claim 6 as agreed to by the Examiner. The present amendment places the application in a condition for allowance and is believed to be clearly appropriate.

In view of the foregoing, it is respectfully requested that the amendment be entered and the application allowed.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

James L. Tarolli

James L. Tarolli
Reg. No. 36,029

TAROLLI, SUNDHEIM, COVELL,
TUMMINO & SZABO
1111 Leader Building
526 Superior Avenue
Cleveland, Ohio 44114-1400
(216) 621-2234

AF $

3618

Practitioner's Docket No. TRW(VSSIM)2499RE PATENT

Part 2 of Paper #18

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Hiroshi Nemoto

Application No.: 09/196,029 Group No.: 3618

Filed: November 19, 1998 Examiner: P. Dickson

For: **HOUSING ASSEMBLY FOR AN AIR BAG AND VEHICLE HORN SWITCH**

Assistant Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION—37C.F.R. 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on December 8, 2000

NOTE: "Appellant must, within two months from the date of the notice of appeal under § 1.191 or within the time allowed for reply to the action from which the appeal was taken, if such time is later, file a brief in triplicate. . ." 37 C.F.R. § 1.192(a) (emphasis added).

2. STATUS OF APPLICANT

This application is on behalf of

☒ other than a small entity.

☐ a small entity.

A statement

☐ is attached.

☐ was already filed.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. 1.17(c), the fee for filing the Appeal Brief is:

☐ small entity	$155.00
☒ other than a small entity	$310.00

Appeal Brief fee due $310.00

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

☒ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

FACSIMILE

☐ transmitted by facsimile to the Patent and Trademark Office

Anita J. Galo
Signature

Date: January 17, 2001

Anita J. Galo
(type or print name of person certifying)

4. EXTENSION OF TERM

NOTE: The time periods set forth in 37 C.F.R. 1.192(a) are subject to the provision of § 1.136 for patent applications. 37 C.F.R. 1.191(d). See also Notice of November 5, 1985 (1060 O.G. 27).

NOTE: As the two-month period set in § 1.192(a) for filing an appeal brief is not subject to the six-month maximum period specified in 35 U.S.C. § 133, the period for filing an appeal brief may be extended up to seven months. 62 Fed. Reg. 53,131, at 53, 156; 1203 O.G. 63, at 84 (Oct. 10, 1997).

The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply.

(complete (a) or (b), as applicable)

(a) ☐ Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(1)-(5)) for the total number of months check below:

Extension (months)	Fee for other than small entity	Fee for small entity
☐ one month	$ 110.00	$ 55.00
☐ two months	$ 390.00	$195.00
☐ three months	$ 890.00	$445.00
☐ four months	$1,390.00	$695.00

Fee $ _____

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next time, if applicable)

☐ An extension for _____ months has already been secured and the fee paid therefor of $_____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request $ _____

or

(b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal brief fee $310.00

Extension fee (if any) $ _____

TOTAL FEE DUE $310.00

6. FEE PAYMENT

☒ Attached is a check in the sum of $ 310.00

☐ Charge Account No. 20-0090 the sum of $ _____

A duplicate of this transmittal is attached.

7. FEE DEFICIENCY

NOTE: If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to change the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986 (1065 O.G. 31-33).

6. ☒ If any additional extension and/or fee is required, this is a request therefor and to charge Account No. 20-0090 .

AND/OR

☒ If any additional fee for claims is required, charge Account No. 20-0090 .

Robert N Lipcsik

SIGNATURE OF PRACTITIONER

Robert N. Lipcsik
(type or print name of practitioner)

Reg. No.: 44,460

Tel. No.:(216) 621-2234

Tarolli, Sundheim, Covell
Tummino & Szabo L.L.P.
1111 Leader Building
526 Superior Avenue
P.O. Address
Cleveland, OH 44114-1400